

# Follow-up of hen's egg allergic children: investigation of factors that influence the reevaluation of tolerance development

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## Abstract

**Background:** In order to determine tolerance development in hen's egg (HE) allergic children, international guidelines recommend an oral food challenge after 6-24 months. This study aimed to assess whether parents follow this advice and factors that influence their decision. **Methods:** A follow-up of 158 challenge-proven HE allergic children was performed. Families who did not come to a rechallenge were contacted by phone and a standardized survey relating to the current allergy status was conducted. Logistic regression models were used to assess the effect of clinical and laboratory characteristics on the reevaluation of the allergy status. **Results:** 35% of the HE-allergic children conducted a rechallenge in a hospital, 27% continued avoiding HE without reevaluation and 11% performed a "home-testing" with HE. The odds ratio for patients to test for HE tolerance at home instead of in a hospital increased 7.94 times (CI:2.31-27.31) for every decrease in the severity score at the initial challenge, and 3.24 times (CI:1.26-8.33) for every decrease of the baseline specific IgE CAP-class. Tolerance of heated HE prior to reevaluation was most frequent in the home-tested (100%) and was more frequent in patients, who continued avoidance (68%) compared to those, who were rechallenged (44%). **Conclusions:** Our data suggest an association between reaction severity as well as specific IgE levels at initial food challenge and the choice of families whether and how to evaluate natural tolerance development in their HE-allergic child. Individualized management may be needed in order to achieve safe and effective medical care for these patients.

## Title Page

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